WHAT IS CLAIMED IS:

1. A method of making a microarray comprising the steps of:

--providing a support;

--coating on the support a receiving layer to receive microspheres, the receiving layer being capable of undergoing sol/gel transition;

--coating on the receiving layer a dispersion of microspheres in a carrier fluid, wherein the carrier fluid contains at least one crosslinking agent and is capable of solvating the receiving layer;

--allowing the microspheres to partially submerge into the receiving layer;

--creating conditions to induce sol/gel transition in the receiving layer, thus immobilizing the microspheres;

--evaporating off the carrier fluid; and

--allowing crosslinking reaction between the receiving layer and the crosslinker in the carrier fluid.

2. The method according to claim 1 wherein the receiving layer comprises gelatin.

3. The method according to claim 1 wherein the immobilization of the microspheres on the substrate is preserved upon sol-gel transition of the receiving layer.

4. The method according to claim 1 wherein the dispersion is coated on the receiving layer using knife coating, blade coating or slot coating.

5. The method according to claim 1 wherein the support comprises glass, plastic, cellulose acetate, or polyethyleneterephthalate.

6. The method according to claim 1 wherein the support is flexible.

7. The method according to claim 1 wherein the microspheres bear chemically active sites.

8. The method according to claim 7 wherein the chemically active sites are bioactive.

9. The method according to claim 1 wherein, upon coating the dispersion of microspheres on a receiving layer, said microspheres become immobilized in the plane of coating and form a random pattern on the receiving layer.

10. The method according to claim 1 wherein the receiving layer is characterized by an absence of sites capable of specifically interacting physically or chemically with the microspheres.

11. The method according to claim 1 wherein the support is characterized by an absence of sites capable of specifically interacting physically or chemically with the microspheres.

12. The method according to claim 1 wherein the microspheres can bear surface active sites.

13. The method according to claim 12 wherein the surface active sites can carry organic or inorganic attachments.

14. The method according to claim 12 wherein the surface active site is capable of chemical or physical interaction.

15. The method according to claim 12 wherein the surface active site is bioactive.

16. The method according to claim 15 wherein the bioactive site interacts with nucleic acid, protein, or fragments thereof.

17. The method according to claim 1 wherein the microsphere contains a signature.

18. The method according to claim 1 wherein the microspheres have a mean diameter between 1 and 50 microns.

19. The method according to claim 1 wherein the microspheres have a mean diameter between 3 and 30 microns.

20. The method according to claim 1 wherein the microspheres have a mean diameter between 5 and 20 microns.

21. The method according to claim 1 wherein the microspheres in the dispersion are immobilized on the receiving layer in a concentration between 100 and 1 million microspheres per cm^2.

22. The method according to claim 1 wherein the microspheres in the composition are immobilized on the substrate in a concentration between 1000 and 200,000 microspheres per cm^2.

23. The method according to claim 1 wherein the microspheres in the composition are immobilized on the substrate in a concentration between 10,000 and 100,000 microspheres per cm^2.

24. The method according to claim 1 wherein the microspheres comprise a synthetic or natural polymeric material.

25. The method according to claim 24 wherein the polymeric material is an amorphous polymer.

26. The method according to claim 25 wherein the amorphous polymer is polystyrene.

27. The method according to claim 1 wherein the microspheres contain a surface active site comprising a functionality selected from the group consisting of carboxy, amine, epoxy, hydrazine, aldehyde and combinations thereof.

28. The method according to claim 1 wherein the microspheres contain a polymeric material and less than 30 weight percent of a crosslinking agent.

29. The method according to claim 1 wherein the microspheres are prepared by emulsion polymerization or limited coalescence.

30. The method according to claim 1 wherein the receiving layer is free of receptors designed to physically or chemically interact with the microspheres.

31. A microarray made by the process of claim 1.